

A33M116

Starter Kit

STK-A33M116-RLN-A

Starter Kit H/W Manual

Version 1.04

Contents

1	Introduction of starter kit board	4
2	A-link part	5
2.1	A-link section	5
2.1.1	USB connector (micro USB type B)	5
2.1.2	J103 (Box Header): SWD Connector on MCU Board	5
2.1.3	J2 (Box Header): SWD Connector on A-Link Board	5
2.2	Power, USB to UART section	6
2.2.1	P2: MCU Power Selector	6
2.2.2	J3: USB to UART connection	6
3	Device part	7
3.1	Power, Boot mode selector and switch	7
3.1.1	J205: external power (not used)	7
3.1.2	J202: mode select (boot/normal) pins	7
3.1.3	SW201, SW202: switch	7
3.2	LED display (D101 – D106)	8
3.2.1	LED schematic	8
3.2.2	LED pin assignment	8
3.3	Pin assignment	9
	Revision history	10

List of figures

Figure 1. Starter Kit Board	4
Figure 2. A-Link Section	5
Figure 3. Power, USB to UART Section	6
Figure 4. Power, Boot mode and Switch	7
Figure 5. LED Display	8
Figure 6. LED Schematic	8
.....	9
Figure 7. Pin Assignment	9

List of tables

Table 1. Main Features of Starter Kit Board	4
Table 2. SWD Pin Description on MCU Board	5
Table 3. A-Link SWD Pin Description	5
Table 4. P2 MCU Power Selector	6
Table 5. USB to UART Description	6
Table 6. J205 Description and Connection	7
Table 7. J202 Boot Mode Selector	7
Table 8. SW201, SW202 Description and Function	7
Table 9. LED Pin Description	8

1 Introduction of starter kit board

Figure 1 shows a starter kit board of A33M116-RLN-A. In Table 1, you can see main features of the starter kit board.

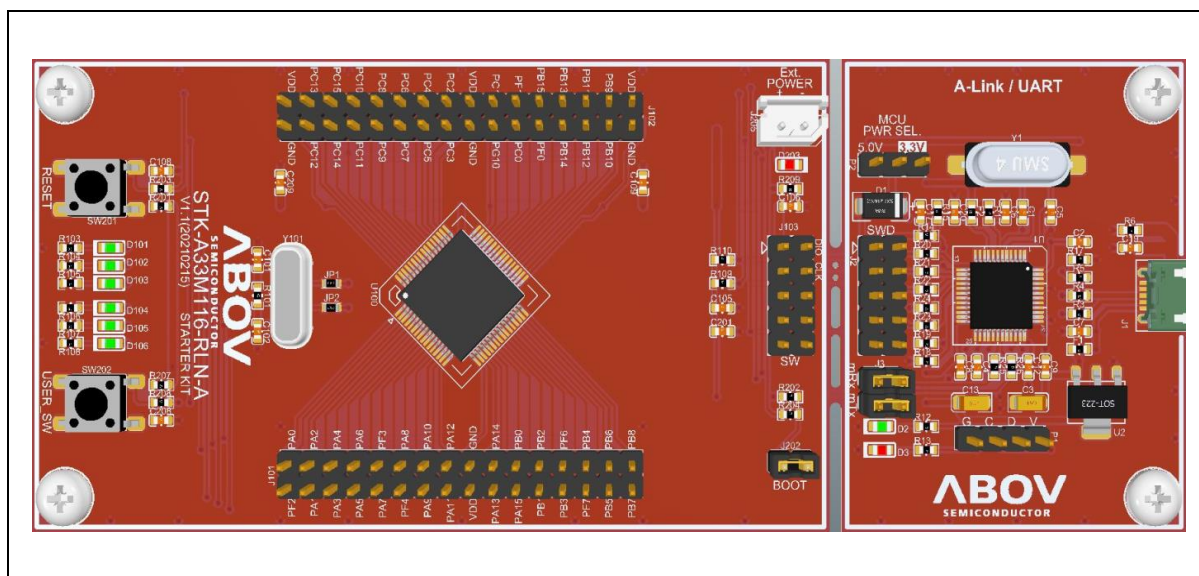


Figure 1. Starter Kit Board

Table 1. Main Features of Starter Kit Board

Main feature	Specifications	Remark
MCU	A33M116RLN	ARM CORTEX-M3
Operating clock	8 MHz	Crystal Main
ROM	256 KB flash ROM	Code
Data Flash	32 KB	Data
RAM	16 KB	Data
Communication port	USB 2.0	Micro USB Type B 5-pin
Debugging port	SWD	10-pin Connector
Input buttons	1 reset & 1 event input	TACT switch

2 A-link part

In this chapter, A-link part of the starter kit board is introduced.

2.1 A-link section

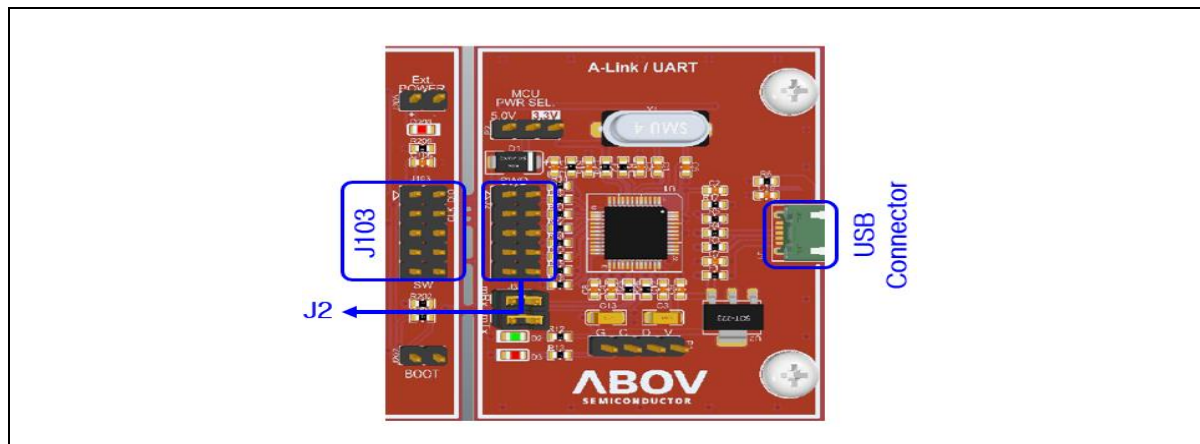


Figure 2. A-Link Section

2.1.1 USB connector (micro USB type B)

PC USB interface (Debug Keil, IAR ..)

CMSIS-DAP (Debug)

COM Port

2.1.2 J103 (Box Header): SWD Connector on MCU Board

Table 2. SWD Pin Description on MCU Board

V-Sense	1	2	SWDIO
GND	3	4	SWCLK
GND	5	6	NC
NC	7	8	NC
GND	9	10	nRESET

2.1.3 J2 (Box Header): SWD Connector on A-Link Board

Table 3. A-Link SWD Pin Description

V-Sense	1	2	SWDIO
GND	3	4	SWCLK
GND	5	6	NC
NC	7	8	NC
GND	9	10	nRESET

2.2 Power, USB to UART section

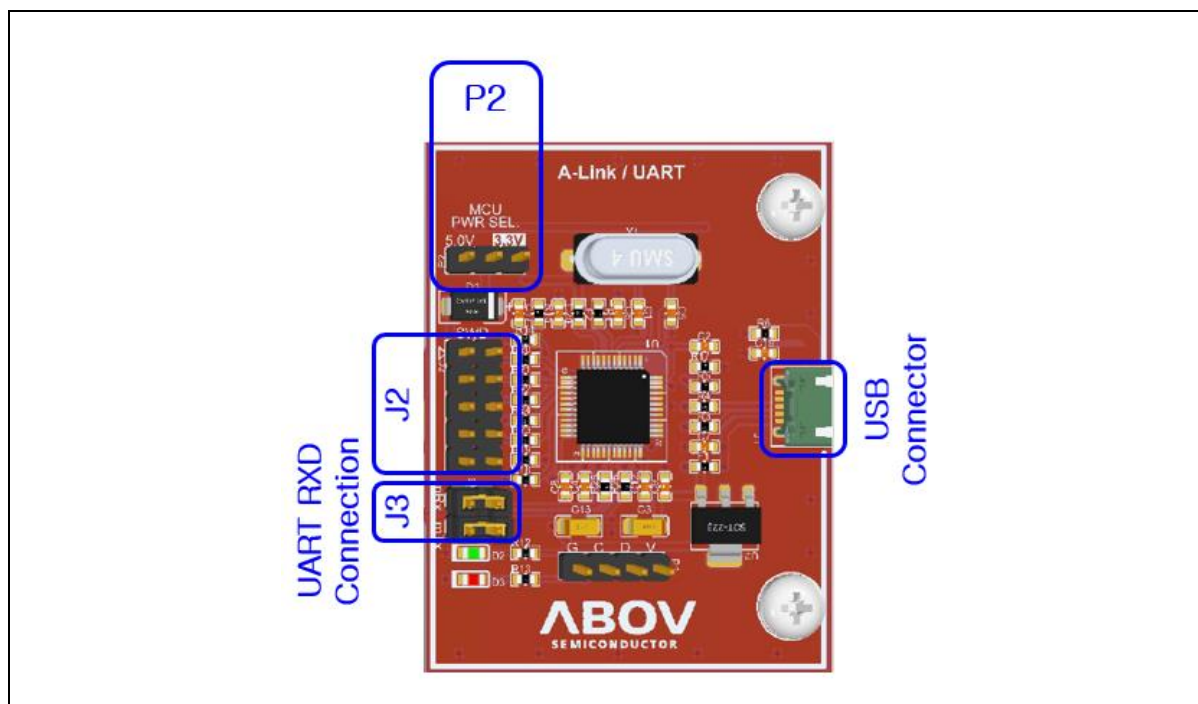


Figure 3. Power, USB to UART Section

2.2.1 P2: MCU Power Selector

Table 4. P2 MCU Power Selector

P2	VDD
	5.0V
	3.3V
	External Power

2.2.2 J3: USB to UART connection

Table 5. USB to UART Description

J3	Pin	Connection
	Short	(mRX) MCU RXD ← PC TXD (mTX) MCU TXD → PC RXD
	Open	(mRx) MCU RXD Open (mTx) MCU TXD Open

3 Device part

In this chapter, power, a boot mode selector and switches of the starter kit board are introduced.

3.1 Power, Boot mode selector and switch

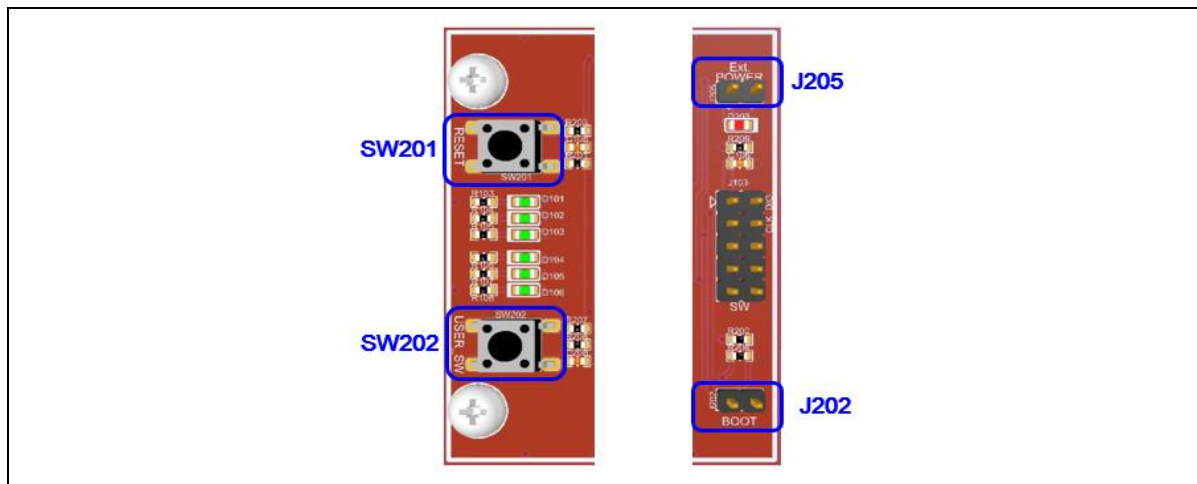
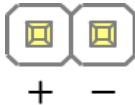


Figure 4. Power, Boot mode and Switch

3.1.1 J205: external power (not used)

Table 6. J205 Description and Connection

J205	Pin name	Connection
	VDD	+3.3 ~ 5.0V
	GND	0V

3.1.2 J202: mode select (boot/normal) pins

Table 7. J202 Boot Mode Selector

J202	Pin name	Connection
	Short	Boot mode
	Open	Normal mode

3.1.3 SW201, SW202: switch

Table 8. SW201, SW202 Description and Function

Switch	Function
SW201	nRESET/PC10
SW202	PC9

3.2 LED display (D101 – D106)

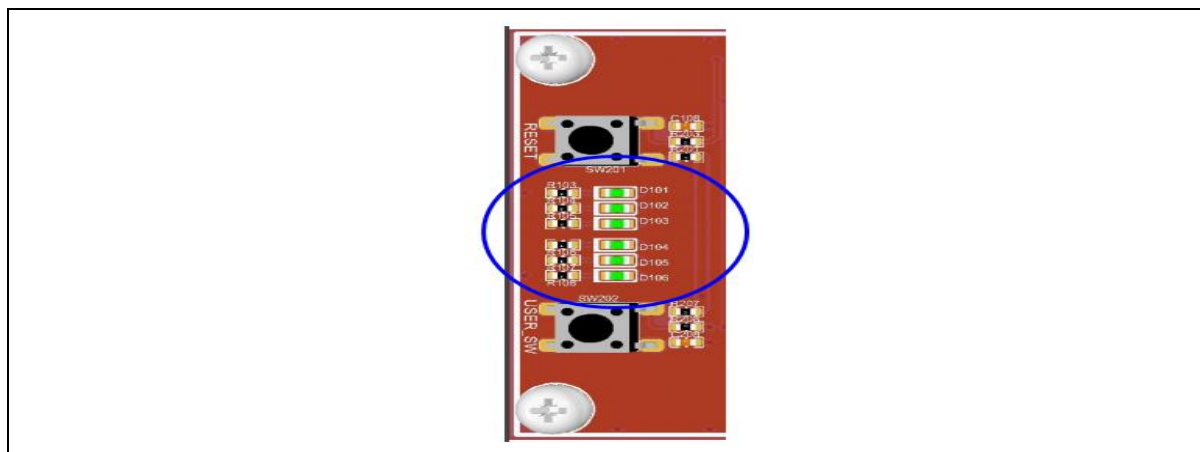


Figure 5. LED Display

3.2.1 LED schematic

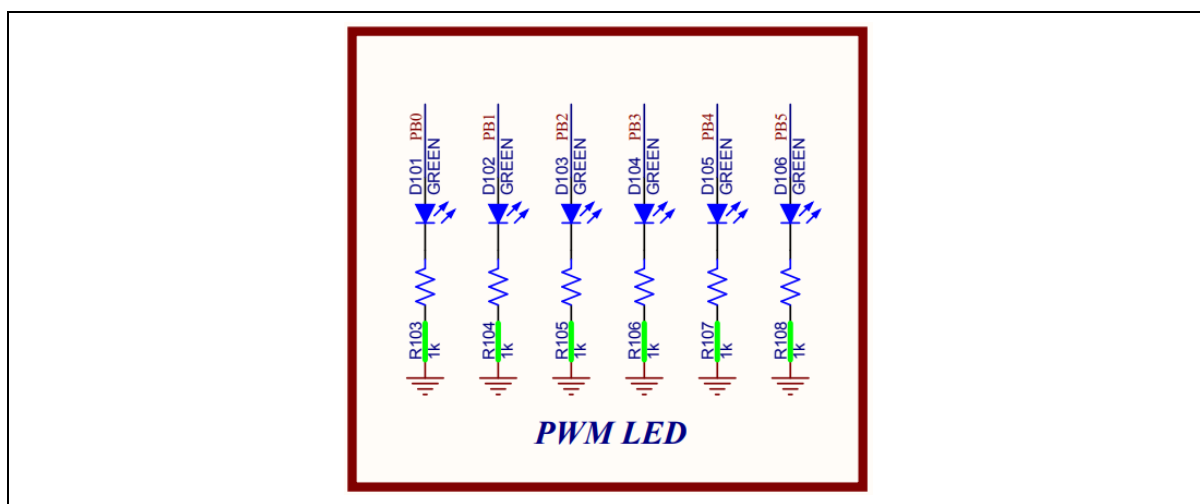


Figure 6. LED Schematic

3.2.2 LED pin assignment

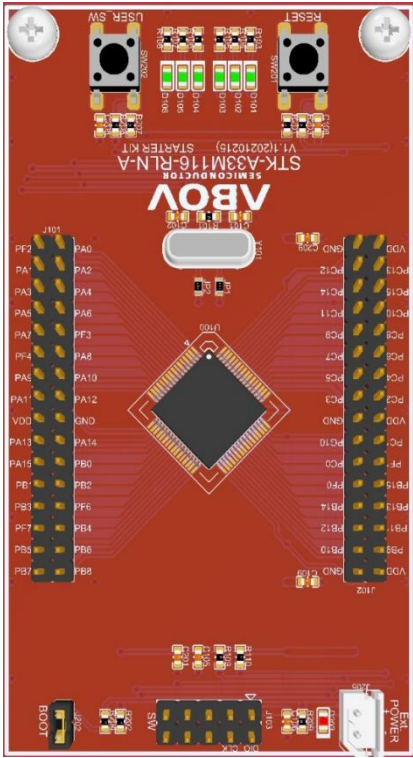
Table 9. LED Pin Description

LED name	PORT
D101	PB0
D102	PB1
D103	PB2
D104	PB3
D105	PB4
D106	PB5

3.3 Pin assignment

Pin color legend	
 VDD	 PC
 GND	 PD
 PA	 PF
 PB	 PG

CN1	
1	PF2
2	CO0/AO0/AN0/PA0
3	AIN0/AN1/PA1
4	AIP0/AN2/PA2
5	CAPEU/AIP1/AN3/PA3
6	T0IO/AN4/PA4
7	AN5/T1IO/PA5
8	CAPEV/AIN1/T2IO/AN6/PA6
9	CO1/CAPEW/AO1/T3IO/AN7/PA7
10	PF3
11	PF4
12	CO2/SCAPEU/AO2/AN8/PA8
13	SCAPEV/AIN2/AN9/PA9
14	QE10_UPDN/SCAPEW/AIP2/AN10/PA10
15	AN11/PA11
16	SS0/AN12/PA12
17	VDD
18	GND
19	PA13/AN13/SCK0/QE10A/AIP3
20	PA14/AN14/MOSI0/QE10B/PRTINEV/AIN3
21	PA15/AN15/MISO0/QE10IDX/OVINEV/AO3/CO3
22	PB0/MP0UH
23	PB1/MP0UL
24	PB2/MP0VH
25	PB3/MP0VL
26	PF6/PRTINEW
27	PF7/OVINEW
28	PB4/MP0WH/T4IO
29	PB5/MP0WL/T5IO
30	PB6/PRTIN0U
31	PB7/OVIN0U/CLK0
32	PB8/PRTIN1U/RXD3/SWCLK



CN2	
64	GND
63	VDD
62	XIN/PC12
61	XOUT/PC13
60	RXD0/PC14
59	TXD0/PC15
58	T6IO/BOOT/PC11
57	nRESET/PC10
56	T5IO/CLK0/PC9
55	QE11_IDX/T4IO/SDA0/PC8
54	QE11_B/T3IO/SCL0/PC7
53	QE11_A/TXD1/T2IO/PC6
52	QE11_UPDN/RXD1/T1IO/PC5
51	T0IO/PC4
50	PC3
49	PC2
48	GND
47	VDD
46	PG10/T7IO
45	PC1/SWDIO/TXD0
44	PC0/SWCLK/RXD0/BOOT
43	PF1/SDA1
42	PF0/SCL1
41	PB15/MP1WL/OVINEV
40	PB14/MP1WH/PRTINEV
39	PB13/MP1VL/MISO1/RXD2
38	PB12/MP1VH/MOSI1/TXD2
37	PB11/MP1UL/SCK1
36	PB10/MP1UH/SS1
35	PB9/OVIN1/TXD3/SWDIO
34	GND
33	VDD

Revision history

Date	Version	Description
20.03.31	1.00	Document created
20.01.22	1.01	Updated Starter Kit figures. Modified item name to match STK with a PCB silk.
22.02.09	1.02	Revised Document Updated Figure 1, Figure 2, Figure 3, Figure 4
23.01.13	1.03	Revised the font of this document
24.11.07	1.04	Updated the disclaimer

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